

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-81. (Cancelled).

82. (Currently Amended) An optical element, comprising:

a polarization-modulating optical element comprising an optically active crystal having an optical axis, the polarization-modulating optical element having a thickness profile that, as measured in the direction of the optical axis, is variable,

wherein the polarization-modulating optical element is configured to transform an entering light bundle with a first linear polarization distribution into an exiting light bundle with a second linear polarization distribution different from the first linear polarization distribution, and the second linear polarization distribution is an approximately tangential polarization distribution ~~or an approximately radial polarization distribution.~~

83. (Previously Presented) The optical element of claim 82, wherein:

when a first linearly polarized light ray passes through the optical element, a plane of oscillation of the first linearly polarized light ray is rotated by a first angle; and

when a second linearly polarized light ray passes through the optical element, a plane of oscillation of the second linearly polarized light ray is rotated by a second angle different from the first angle.

84. (Currently Amended) The optical element of claim 82, wherein the optically active crystal comprises quartz, ~~TeO₂ or AgGaS₂.~~

85-91. (Cancelled).

92. (Previously Presented) The optical element of claim 82, wherein the polarization-modulating optical element comprises at least two planar-parallel portions of different thickness or different optical effective thickness.

93. (Currently Amended) The optical element of claim 92, wherein the at least two planar-parallel portions are configured as ~~sectors of a circle, or as hexagonal, square, rectangular or trapeze-shaped~~ raster elements and/or comprise at least a cuvette comprising an optically active or optically inactive liquid.

94-102. (Cancelled).

103. (Currently Amended) The optical element of claim ~~102~~ 82, further comprising:

a first group of substantially planar-parallel portions; and

a second group of substantially planar-parallel portions,

wherein:

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a first angle of rotation β_1 by the first group of substantially planar-parallel portions,

when linearly polarized light passes through the optical element, a plane of oscillation of the linearly polarized light is rotated by a second angle of rotation β_2 by the second group of substantially planar-parallel portions, and

β_1 and β_2 are approximately conforming to the expression $|\beta_2 - \beta_1| = (2n+1) \cdot 90^\circ$, with n representing an integer.

104. (Previously Presented) The optical element of claim 103, wherein β_1 and β_2 are approximately conforming to the expressions $\beta_1=90^\circ+p\cdot 180^\circ$, with p representing an integer, and $\beta_2=q\cdot 180^\circ$, with q representing an integer other than zero.

105-109. (Cancelled).

110. (Previously Presented) An optical arrangement, comprising:
the polarization-modulating optical element according of claim 82; and
a second polarization-modulating optical element arranged so that, when light passes through the optical arrangement, the light can pass through the first and second polarization-modulating elements.

111-114. (Cancelled).

115. (Previously Presented) The optical arrangement of claim 110, wherein the second polarization-modulating optical element causes a 90° -rotation of the oscillation plane of a linearly polarized light ray passing through the optical arrangement.

116. (Cancelled).

117. (Previously Presented) A system, comprising:
an illumination system;
a projection objective; and
the optical element of claim 82 in the illumination system,
wherein the system is a microlithography optical system.

118. (Previously Presented) A system, comprising:
an illumination system;

a projection objective; and
the optical arrangement of claim 110 in the illumination system,
wherein the system is a microlithography optical system.

119. (Previously Presented) The system of claim 117, further comprising:
a substrate; and
an immersion medium with a refractive index different from air is between the substrate
and an optical element nearest to the substrate.

120. (Previously Presented) A method, comprising manufacturing a micro-structured
semiconductor component using a system in accordance with claim 117.

121. (New) A system, comprising:
an illumination system;
a projection objective; and
a polarization-modulating optical element comprising an optically active crystal having
an optical axis, the polarization-modulating optical element having a thickness profile that, as
measured in the direction of the optical axis, is variable,
wherein the system is a microlithography optical system.

122. (New) The system of claim 121, wherein the polarization-modulating optical element is
arranged in the illumination system.